

REMARKS

Applicant thanks the examiner for her attention to the application. In response, claims 5 and 10 have been cancelled to overcome the objection in regard to the apertures (i.e. through vias), along with claims 2 and 19. Claims 1, 8, 11, 12, 14, 16-18, and 20 have been amended and new claim 21, which depends from claim 18, has been added. The amended claims are believed patentably distinguishable over the art in view of the following noted distinctions.

Claims 1-20 are pending in the application. Claims 1, 4, 6, 8, and 15-20 stand rejected under 35 USC §102 as being anticipated by Talisa. Claims 2, 11, 12, and 14 stand rejected under 35 USC §103 as being obvious over Talisa in view of Sasaki (US 6,346,863). Claims 7 and 9 stand rejected under 35 USC §103 as being obvious over Talisa in view of Fleischer (US 4,783,359). Claim 13 stands rejected under 35 USC §103 as being obvious over Talisa in view of Sasaki and Fleischer. Claims 5 and 10 stand rejected under 35 USC §103 as being obvious over Talisa in view of Nakamura.

Talisa at Figures 1 and 1a and column5, lines 17-67 discloses a double wound, spiral-shaped delay line wherein the delay line 5 terminates at tapered transformer sections 26 and 27. The tapered transformer sections 26 and 27 are shown at Figure 1a. Figure 2 discloses a meandering delay line 30 that terminates at tapered transformer sections 34 and 36. In Talisa's coiled and meandering circuits of Figures 1 and 2, both transformer sections 26,27 and 34,36 are unbounded relative to the adjoining portions of the continuous conductor pathway and hence exhibit similar electrical characteristics with respect to the adjoining pathway portions.

Applicant in contrast at independent claim 8 and related dependent claims 9-11 and 20 and dependent claims 16-18 (which depend from claim 1), provides for **coil shaped** signal conductors wherein only the outer proximal end or first section is unbounded by the other windings. The interior distal end, otherwise, is bounded by the adjoining windings, reference the conductor portions shown in green in the attached marked-up copy of Applicant's Figure 2. The proximal and distal ends also exhibit tapers, shown in yellow at the marked-up Figure 2. The inter-winding spacing, shown in orange at the marked-up Figure 2, at the proximal and distal ends relative to adjoining windings is also less than between the other windings. (The distinguishable spacing is also discussed below with respect to Sasaki.) The delay lines of the foregoing claims thus define distinguishable geometric configurations over Talisa.

The distinguishable geometry at the bounded and unbounded ends of applicant's thin film assemblies also produce distinguishable electrical interactions between the proximal and distal conductor ends with respect to the adjoining windings versus Talisa's unbounded ends.

The foregoing distinctions are neither taught nor suggested at Talisa. The modifications of Talisa as suggested by the examiner are neither anticipated nor obviated by Talisa, since Talisa provides no motivation. Moreover, any such modification would require undue experimentation and impermissible reconstruction based on hindsight.

Sasaki discloses **coiled, two conductor** strip line coupler circuits that include paired conductors 2 and 3 at Figure 1, conductors 11 and 12 at Figure 3 and conductors 21 and 22 and Figure 4. The pairs of conductors are wound in coiled configurations and exhibit different inter-winding (i.e. "d" spacing) and inter-conductor (i.e. "g" spacing)

spacings $d1/g1$, $d2/g2$, $d3/g3$, and $d4/g4$, see Figs. 1, 3 and 4. As noted by the examiner at column 1, lines 9-35, the application of two input signals to the pairs of strip lines produces two output signals having different phase relationships with respect to each other. The phase relationship can be varied depending upon Sasaki's established vertical and horizontal spacings.

The examiner asserts it would have been obvious to modify Talisa to include differential spacings between Talisa's single conductor windings. Such an argument, however, requires one to completely ignore Sasaki's express teaching and requirement of two conductors. The suggestion also ignores the fact that Sasaki does not suggest a single conductor geometry.

Moreover, upon closer inspection of Sasaki and with attention to the attached marked-up copies of Sasaki's Figures 2-4, even if one ignores the second conductor 2 at Figure 1, conductor 11 at Figure 3 or conductor 21 at Figure 4, **the inter-winding spacing (shown with red reference lines) between the adjacent windings of the conductors 2, 11 and 21 is constant from end-to-end for each of Sasaki's coiled assemblies.**

Sasaki thus does not suggest a thin film assembly with differential inter-winding spacings for an included single conductor. Sasaki also does not teach or suggest conductors of differing widths. Consequently, the suggested combination and modification of Talisa with Sasaki is not supported from the teachings or suggestions of either Talisa or Sasaki. Any such modification is supported only by impermissible hindsight reconstruction without the benefit of any motivation from the art. Any such

modification would also require undue experimentation to arrive at the claimed thin film assemblies.

In contrast to Sasaki, Applicant's thin film assemblies include a single conductor and exhibit only an inter-winding spacing. **Independent claims 1, 12 and 14 particularly provide for single conductor thin film assemblies wherein the spacing between proximal and distal ends to adjoining pathway portions is less than between the others of the pathway portions/windings.** Claims 1 and 12 further define the conductor width at the proximal and distal ends to be less than at the intervening pathway portions of the conductor. Dependent claims 13, 16-18 and 21 further define coiled configurations and wherein the outer unbounded and interior bounded ends of the coiled conductor can exhibit narrowed conductor widths.

Applicant's amended independent claims 1, 8, 12 and 14 are therefore structurally and electrically distinguishable from Talisa and/or Sasaki alone or in combination, and are therefore believed allowable. Dependent claims 3, 4, 6, 7, 15-18 and 21, which depend from claim 1; dependent claims 9, 11 and 20, which depend from claim 8; and dependent claims 13, which depends from claim 12, are also believed allowable in their presentation of novel and further distinguishable combinations.

In view of the foregoing amendments to the claims and the provided distinguishable assemblies, the application is believed in a condition for allowance. An early notice to that effect is therefore solicited. If matters remain which can be handled through a telephone conference and examiner's amendment, the examiner is encouraged

to contact the undersigned to discuss same.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Douglas L. Tschida". The signature is fluid and cursive, with a large loop at the beginning.

Douglas L. Tschida

Registration No. 28481

633 Larpenteur Ave. West, Suite B

St. Paul, Minnesota 55113

(651) 488-8285